No. 1836

INDEX TO VOLUME 43

NOTE

1	Names of authors and discussers, also those of deceased members preceding an obituary notice,
	are in caps and small caps. A discusser is distinguished from the author of a paper by
	(D), placed after the name of the paper.

Titles of papers, where placed after the name of the author, and appearing in their exact form, are in italics. Papers are indexed not under their titles but under their subject-matter.

P	AGE
Abbott, W. L. Location and Distribution of the Central-Station Power of	
the Middle West	429
	283
Adams, Earle E. fuel saving in gas producers (D)	937
AIREY, JOHN. Art of Milling 549,	609
Airplanes, commercial operation of	737
rib forms, strength of	105
AKERLAND, GUSTAF, obituary	284
Aldrich, Wm. S. Boiler and furnace efficiency (D)	907
	872
	763
Alexander, M. W. ¹ The Engineering Industries and Education	
ALLEN, FRANCIS B., obituary	284
Anderson, John. Heat balance in steam power plants (D)	524
Andrews, B. R. Economy in Textile Drying 1083, 10	088
Andrews, David Herbert, obituary 1:	285
AZBE, VICTOR J. Boiler-Plant Efficiency 853,	876
Boiler tests with pulverized coal (D)	60
Bailey, Alex D. Boiler and furnace economy (D)	892
Bailey, E. G. Recording Ash-Pit Loss from Chain-Grate Stokers	19
Baker, Frank D., obituary 1:	285
BAKER, WILLIAM EDGAR, obituary 1	285
	286
Banash, J. S. An investigation of oxy-acetylene welding and cutting	
blowpipes (D)	313
Bancel, Paul A. Steam-Condensing Plants 1051, 10	075
BARBOUR, GEORGE HULBURT, obituary 1	286
Barnhurst, H. G. Boiler tests with pulverized coal (D)	54
BARTH, CARL G. Art of milling (D)	605
	094
Barthgate, O. H. Report upon efficiency tests of a 30,000-kw. steam	
turbine (D)	135

¹ See Mechanical Engineering, June 1921.

Beaman, Elmer A., obituary
Bean, W. L. Avoidable waste in locomotive and car operation (D) 98
Bearing metals, report
Berry, C. Harold Boiler-plant efficiency (D)
Heat balance of the Connors Creek Plant of the Detroit Edison
Company 500, 54
Performance of pumping engine (D)
BIGELOW, CHARLES H. Economy in textile drying (D)
Blaisdell, A. H. Capacity tests of dry-vacuum pumps by the low-
pressure nozzle (D) 10
Blessing, George F., obituary
BLIZARD, JOHN. Boiler Tests with Pulverized Coal 43
Blowpipes, oxy-acetylene, investigation of welding and cutting 14
Blunt, J. G. The design of large locomotives (D) 386
Boiler, economy 879
emergency fleet, tests of
test of, with oil fuel 789
tests with pulverized coal 43
Boiler-plant efficiency
Bradley, William J., obituary
Breckenridge, L. P. Heat balance in steam power plants (D) 530
Broome, E. L. Heat balance in steam power plants (D)
Brown, D. T. The Strength of Airplane Rib Forms
Brown, E. H. The Vertical Triple-Expansion Pumping Engine 809, 849
Brown, John Wilson Jr. Heat balance in steam power plants (D) 538
Brown, R. W. The design of large locomotives (D)
Bruce, A. W. Advantages of large freight locomotives (D)
The design of large locomotives (D)
Necessity for improvement in present-day locomotives (D)
Bryan, W. E. Power production and use (D)
Brydon, H. B. Capacity tests of dry-vacuum pumps by the low-pressure
nozzle (D)
Report upon efficiency tests of a 30,000-kw, steam turbine (D) 135
Buckingham, Earle. Art of milling (D)
Buell, D. C. Education and Training on Railroads
Burbank. Edward W. Hydraucone regainer (D)
Burke, H. M. Waste in textile plants (D)
•
Cable, wire, elastic properties of
CADE, CHARLES WALKER, obituary
CAMPBELL, J. A. Economy in textile drying (D) 1088
Canter, Maurice J., obituary
CARDULLO, FORREST E. Design of large locomotives (D)
CARMAN, EDWIN S. Biography
Presidential Address
CARRIER, W. H. Economy in textile drying (D) 1088
Cars, container
Waste in operation of
The state of the s

¹ See Mechanical Engineering, February 1922

CARY, ALBERT A. Boiler and furnace efficiency (D)	900
Chain-grate stokers, ash-pit losses in	19
Chapman, W. B. Fuel Saving in Modern Gas Producers and Indus-	
trial Furnaces	, 948
Charts, process	1029
Chiffelle, Francis A. Waste in textile plants (D)	1094
Christie, A. G. A National Policy on Engineering Education	
Performance of pumping engines (D)	840
Steam-condensing plants (D)	1071
Christy, William G. Capacity tests of dry-vacuum pumps (D)	109
Снивси, M. D. Heat balance in steam power plants (D)	533
CLARK, WALLACE. Process charts (D)	1045
CLARKE, C. W. E. Heat Balance of the Colfax Station	487
Cleveland, performance of pumping engines at	809
Coal, pulverized, boiler tests with	45
Coberly, C. J. Oxy-acetylene welding and cutting blowpipes (D)	216
Code, Power Test	1321
Elevator Safety	1321
Coes, H. V. ² Material Handling an Important Factor in the Elimination of	1021
Industrial Waste	
Cogswell, William B., obituary	1289
Cole, Charles B. Fundamentals of interchangeable manufacture (D)	426
Cole, J. Wendell, obituary	1290
Colfax station, heat balance of	487
Colvin, Fred H. Process charts (D)	1044
Combustion engine, compound	677
	1051
Condensers, steam	88
	00
On the Organization of an Engineering Society 3	1045
Process charts (D)	1043
Council Report	453
CROCKER, J. N. The container car (D)	1023
Cromwell, O. C. Advantages of large locomotives (D)	341
Avoidable waste in locomotive design (D)	1001
Design of large locomotives (D)	371
Crosby, Charles J., obituary	1290
Curtis, C. D. Planning and Organizing a Road Job for Mechanical	
Handling of Material	
Cylinder heads, stresses in	615
Davis, George Maslin, obituary	1290
Davis, H. N. Avoidable waste in locomotive design (D)	1001
DAY, LEONARD A. Performance of pumping engines (D)	843
	1072

See Mechanical Engineering, January 1922
 See Mechanical Engineering, December 1921
 See Mechanical Engineering, May 1921
 See Mechanical Engineering, June 1921

Dean, F. W. Testing Emergency Fleet Boilers using Oil Fuel	789
DEKINDER, J. J., obituary	1291
Delaware station, heat balance and auxiliary system of	475
DE LEEUW, A. L. Art of milling (D)	589
Detroit Edison Company. Heat balance of Connors Creek Plant	500
DIEFENBACH, R. J. The Strength of Airplane Rib Forms	1105
Diserens, Paul. Capacity tests of dry-vacuum pumps (D)	108
Draft tube, design of	1219
flow in	1245
Drisko, W. J. Stresses in flat cylinder heads (D)	646
Drying, textile	1083
DUFFY, PAUL R. Advantages of large freight locomotives (D)	342
DURAND, W. F. Application of the Law of Kinematic Similitude to the	
Surge-Chamber Problem	1177
Eaton, Russell W., obituary.	1291
EBERHARDT, HENRY J. 1 Influence of the Automobile on Gear Cutting and	
Gear-Cutting Machinery.	
Eddy, Benjamin S., obituary	1292
EDWARDS, WILLIAM B., obituary.	1292
Elevator safety code	1321
Elmer, William. Avoidable Waste in the Operation of Locomotives and	1021
Cars	985
Engine, combustion, compound.	677
internal-combustion, oil-injection	1141
oil, porting and charging	649
pumping, performance of	809
triple-expansion	809
итрис-саранизон	000
E I Defended in (D)	0.40
FAIRBANKS, FRANK L. Performance of pumping engine (D)	842 132
FINLAY, W. S., Jr. Efficiency tests of 30,000-kw. steam turbine (D)	
Fischer, L. A., obituary Fish, Gilbert Dudley. Stresses and Deformation in Flat Circular	1292
	015
Cylinder Heads	615
	615
Flat plates	
Flow, in conical draft tubes	1245
Foran, George J., obituary Forbes, William Dunderdale, obituary	$\frac{1293}{1294}$
	1294
FowLer, Arthur N., obituary	
Fox, Sir Charles Douglas, obituary	1295
Frankenhoff, C. A. Boiler and furnace efficiency (D)	910
French, Lester Gray, obituary	1279
Fuel saving in gas producers	919
Funk, Nevin E. Heat balance in steam power plants (D)	524
Furnace economy	879
Furnaces, industrial, fuel saving in	919

 $^{^{1}}$ See Mechanical Engineering, August 1921

NDEX	1327

Gaines, Frederick Frelinghuysen, obituary	1296
Gallagher, F. S. The container car (D)	1024
GARTLEY, ALONZO, obituary	1296
Gas producers, fuel saving in	919
Gates, Thayer P. Hidden Waste in Textile Plants 1089,	1095
Gibson, George H. Performance of pumping engines (D) 839,	
GIFFORD, GEORGE NATHAN, obituary	1297
GILBRETH, FRANK B. Art of milling (D)	609
Process Charts	1049
Gilbreth, L. M. Process Charls	1029
Godoy, Emilio S., obituary	1297
GOODE, C. B. Boiler tests with oil fuel (D)	806
Goodwille, David L. Reforestation to Conserve Industrial Investments	
Goss, W. F. M. Boiler and furnace economy (D)	896
Gould, Webster V., obituary	1298
Grace, John F. Steam-condensing plants (D)	1077
Graphical methods	77
Greene, Arthur M., Jr. Hydraucone regainer (D)	306
Greig, Guilford. Boiler tests with pulverized coal (D)	52
,	
Haig, M. H. The Design of Large Locomotives	345
Hamilton, G. W. Power in the Middle West (D)	447
Harza, L. F. Hydraucone regainer (D)	303
HASWELL, WILLIAM E., obituary	1298
Heat balance, at Delaware station of Philadelphia Electric Company	475
at Colfax station	487
at Connors Creek	500
at Hell Gate Station	495
of steam power plants	473
Hескеrотн, W. C. Boiler tests with pulverized coal (D)	52
Helander, Linn. Heat balance in steam power plants (D)	534
Hell Gate station, heat balance system	495
HENDERSON, GEORGE R., obituary	1298
Hendrickson, F. K. ² Influence of the Automobile on the Machine Tool Industry in General	
HERBERT, JACK STANLEY, obituary	1299
Hibbard, H. Wade. The design of large locomotives (D)	370
Graphical methods (D)	89
HINDE, HENRY J. ² The Relation of Power Presses and Dies to the Auto-	00
mobile Industry	
Hoagland, F. O. Fundamentals of interchangeable manufacture (D)	427
Hodgkinson, Francis. Compound combustion eigine (D)	717
Heat balance in steam power plants (D)	527
Hoff, John A. Boiler tests with pulverized coal (D)	60
Hollman, Frederick W., obituary	1299
Holmes, W. E., obituary	1299
HOLMES, W. E., Oblivary	1200

See Mechanical Engineering, March 1922
 See Mechanical Engineering, August 1921

Hopping, E. L. Auxiliary System and Heat Balance at the Delaware Station of the Philadelphia Electric Company
Boiler and furnace efficiency (D)
Hutchison, Richard, obituary 1300
Hydraucone regainer
Hydraulic relay, steam stations for
ILLMER, LOUIS. Porting and Charging of Two-Stroke Oil Engines
Insull, Samuel. Power in the Middle West (D)
Interchangeable manufacture, fundamentals of
Y G G G G G G G
Jacobson, Conrad C. Stresses in flat cylinder heads (D)
Jacobus, D. S. Boiler and Furnace Economy 879, 911
Boiler-plant efficiency (D) 874
Interpretation of boiler-water analysis (D)
Performance of pumping engines (D)
Jackson, D. C. ¹ The Engineering Industries and Education
James, J. R. Hydraucone regainer (D)
James, S. V. Oxy-acetylene welding and cutting blowpipes (D) 215
Jarvis, Charles Maples, obituary
Jasper, Grover R., obituary
Johnston, R. S. An Investigation of Oxy-Acetylene Welding and Cut- ting Blowpipes
JORDAN, SAMUEL SPRING, obituary. 1301
Junggren, Oscar F. Test of 30,000-kw. steam turbine (D)
JUNGGREN, OSCAR F. Test of 50,000-kw. steam turbine (D) 150
Keating, T. E. Heat balance in steam power plants (D)
Test of a 30,000-kw. steam turbine (D)
KEENAN, W. M. Heat Balance System for Hell Gate Station 495, 547
Keith, James, obituary
Kennal, J. Heat balance in steam power plants (D)
Kent, Robert T. Graphical methods (D)
Process charts (D)
Kerr, S. Logan. The Moody Ejector Turbine
Kiesel, W. F., Jr. Avoidable waste in locomotive design (D) 1003
Kimball, Dexter S. ² The Engineering School and the Industries
Knowles, Lucius J., obituary
Knox, H. G. Oxy-acetylene welding and cutting blowpipes (D) 215
Kreisinger, Henry. Boiler Tests with Pulverized Coal
Larner, Chester W. Hydraucone regainer (D)
LAWRENCE, J. H. Heat Balance System for Hell Gate Station
Leeson, Charles G., obituary
Lent, L. B. Commercial Operation of Airplanes
Lewis, H. E. Boiler tests with oil fuel (D) 807
LIGHTHIPE, WILLIAM WILSON, obituary
Andrian E, William Wilson, Obligary 1809

 $^{^{1}}$ See Mechanical Engineering, June 1921 2 See Mechanical Engineering, January 1922

INDEX	132

Locomotive, avoidable waste in design of	987
design of large	345
freight, advantages of large types	325
necessity for improvement in design and operation of	393
waste in operation of	951
LOEB, LEO. Heat balance in steam power plants (D)	525
LORD, CHESTER B. Fundamentals of Interchangeable Manufacture	421
LOVETT, GEORGE F. Hydraucone regainer (D)	310
Lubrication Report	1269
LUCKE, CHARLES E. The Rising Importance of Oil-Injection Type of	1200
Internal-Combustion Engine	1141
Lyon, George E. Flow in Conical Draft Tubes of Varying Angles	1245
Thou, George E. Twee in Content Drays Tubes by Varying Angles	1240
McClelland, W. Heat balance in steam power plants (D)	540
McDermet, J. R. Heat balance in steam power plants (D)	520
The Interpretation of Boiler-Water Analysis	241
McKennan, Jacob Bowen, obituary	1303
McMillan, L. B. Economy in textile drying (D)	1087
MACDONALD, HENRY PEAKE, obituary	1303
Manly, Thomas. Commercial operation of airplanes (D)	764
MARION, HALL A. Economy in textile drying (D)	1087
MARSH, CLARENCE W. Waste in textile plants (D)	1094
Marshall, R. C. Jr. 1 Mechanical Needs in Highway Construction	
Machinery	
	77
Marshall, W. C. Graphical Methods. Matheson, Jas. H. Fuel saving in gas producers (D)	77 943
MARSHALL, W. C. Graphical Methods	
Marshall, W. C. Graphical Methods	943
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D).	943 1304
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D)	943 1304 1002
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D).	943 1304 1002 377
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D).	943 1304 1002 377 409
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary.	943 1304 1002 377 409 1304
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing.	943 1304 1002 377 409 1304
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILES, H. E. ² General Education and the Engineering Profession.	943 1304 1002 377 409 1304 1273
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILES, H. E.* General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D).	943 1304 1002 377 409 1304 1273
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILES, H. E.* General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry.	943 1304 1002 377 409 1304 1273 840 1097
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. MILLES, H. E. ² General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D).	943 1304 1002 377 409 1304 1273 840 1097 199
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILLES, H. E. 2 General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIKEN, JAMES I., obituary. Milling, art of.	943 1304 1002 377 409 1304 1273 840 1097 199 1305
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. MILLES, H. E. ² General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIKEN, JAMES I., obituary.	943 1304 1002 377 409 1304 1273 840 1097 199 1305 549
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILLER, H. E. General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIKEN, JAMES I., obituary. MILLIKEN, JAMES I., obituary. MINNS, WILLIAM DOUGLAS, obituary. MOONS, WILLIAM DOUGLAS, obituary. MOONS, LEWIS F. Hydraucone regainer (D). The Present Trend of Turbine Development.	943 1304 1002 377 409 1304 1273 840 1097 199 1305 549 1305
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILLER, H. E. General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIKEN, JAMES I., obituary. MILLIKEN, JAMES I., obituary. MINNS, WILLIAM DOUGLAS, obituary. MOONS, WILLIAM DOUGLAS, obituary. MOONS, LEWIS F. Hydraucone regainer (D). The Present Trend of Turbine Development.	943 1304 1002 377 409 1304 1273 840 1097 199 1305 549 1305 296
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILLER, H. E. General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIKEN, JAMES I., obituary. MINING, WILLIAM DOUGLAS, obituary. MONKS, WILLIAM DOUGLAS, obituary. MOODY, LEWIS F. Hydraucone regainer (D). The Present Trend of Turbine Development. MOORE, R. R. A Study of the Elastic Properties of Small-Size Wire Cable Moore, Stanley H., obituary.	943 1304 1002 377 409 1304 1273 840 1097 199 1305 549 1305 296 1113
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILLER, H. E. 2 General Education and the Engineering Profession. MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIER, JAMES I., obituary. MILLIAM DOUGLAS, obituary. MOODY, LEWIS F. Hydraucone regainer (D). The Present Trend of Turbine Development. MOORE, R. R. A Study of the Elastic Properties of Small-Size Wire Cable	943 1304 1002 377 409 1304 1273 840 1097 199 1305 549 1305 296 1113 767
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. MILLER, BARCLAY GEORGE, obituary. MILLER, H. E. ² General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIKEN, JAMES I., obituary. MILLIKEN, JAMES I., obituary. MONKS, WILLIAM DOUGLAS, obituary. MOODY, LEWIS F. Hydraucone regainer (D). The Present Trend of Turbine Development. MOORE, R. R. A Study of the Elastic Properties of Small-Size Wire Cable Moore, Stanley H., obituary. MORETON, F. E. Heat Balance of the Connors Creek Plant of the Detroit Edison Company.	943 1304 1002 377 409 1304 1273 840 1097 199 1305 549 1305 296 1113 767
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. Metals, bearing. MILLER, H. E. General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIKEN, JAMES I., obituary. MILLIAM DOUGLAS, obituary. MOONES, WILLIAM DOUGLAS, obituary. MOONES, WILLIAM DOUGLAS, obituary. MOORE, R. R. A Study of the Elastic Properties of Small-Size Wire Cable Moore, Stanley H., obituary. MORETON, F. E. Heat Balance of the Connors Creek Plant of the Detroit	943 1304 1002 377 409 1304 1273 840 1097 199 1305 549 1305 296 1113 767 1305
MARSHALL, W. C. Graphical Methods. MATHESON, JAS. H. Fuel saving in gas producers (D). MEAKER, GUY L., obituary. MELLIN, C. J. Avoidable waste in locomotive design (D). design of large locomotives (D). necessity for improvement in locomotives (D). MERING, BARCLAY GEORGE, obituary. MILLER, BARCLAY GEORGE, obituary. MILLER, H. E. ² General Education and the Engineering Profession. MILLER, E. E. Performance of pumping engines (D). MILLER, FRED J. Prevention of Wastes in Industry. MILLER, S. W. Oxy-acetylene welding and cutting blowpipes (D). MILLIKEN, JAMES I., obituary. MILLIKEN, JAMES I., obituary. MONKS, WILLIAM DOUGLAS, obituary. MOODY, LEWIS F. Hydraucone regainer (D). The Present Trend of Turbine Development. MOORE, R. R. A Study of the Elastic Properties of Small-Size Wire Cable Moore, Stanley H., obituary. MORETON, F. E. Heat Balance of the Connors Creek Plant of the Detroit Edison Company.	943 1304 1002 377 409 1304 1273 840 1097 199 1305 549 1305 296 1113 767 1305

See Mechanical Engineering, June 1921
 See Mechanical Engineering, August 1921

Muhlfeld, John E. Advantage of large locomotives (D)	333
Avoidable waste in locomotive design (D)	1007
Design of large locomotives (D)	374
Necessity for improvement in present-day locomotives (D)	414
MULLEN, JOHN, obituary	1306
MYERS, DAVID MOFFAT. Boiler and furnace efficiency (D)	909
Boiler-plant efficiency (D)	874
Nagler, Forrest. Draft tube designs (D)	
Hydraucone regainer (D)	301
NAKAI, KUMATARO, obituary	1306
Necrology	1277
Nelis, Joseph. Boiler tests with oil fuel (D)	806
Newton, Lewis W., obituary	1307
Nicholson, John L. Avoidable waste in locomotive design (D)	1004
NINDE, WILLIAM EDWARD, obituary	1307
Noorduyn, R. B. C. Air Lines and Some of Their Problems	-
Commercial operation of airplanes (D)	791
Nozzle, low-pressure, use for capacity tests of dry-vacuum pumps	91
Oakley, W. W. Fuel saving in gas producers (D)	941
OATLEY, H. B. The design of large locomotives (D)	386
Oil engines, two-stroke, porting and charging of	649
Oil fuel, tests of boilers	789
O'ROUKE, GEORGE A., obituary	1308
Orpin, Francis W., obituary	1308
Orrok, George A. Compound combustion engine (D)	717
Heat balance in steam power plants (D)	531
Performance of pumping engines (D)	
Power in the Middle West (D)	448
Test of 30,000-kw. steam turbine (D)	133
OSTRANDER, A. E. The container car (D)	1025
Otis, C. H. The container car (D)	1024
Otterson, J. E. ² College Education as Related to Industry	
Owens, James W. Oxy-acetylene welding and cutting blowpipes (D)	215
Oxford, C. J. Art of Milling	614
Park, William Robert, obituary	1309
Partington, James. Avoidable Waste in Locomotives as Affected by their	
Design 987,	1011
Pfau, Arnold. Hydraucone regainer (D)	311
Pristerer, G. E. Boiler tests with pulverized coal (D)	59
Interpretation of boiler-water analysis (D)	252
Philadelphia Electric Company, Delaware Station, heat balance of	475
PIEPMEIER, B. H. ³ Road-Construction Plants	
Piggot, R. J. S. Heat balance in steam power plants (D)	529

See MECHANICAL ENGINEERING, February 1922
 See MECHANICAL ENGINEERING, January 1922
 See MECHANICAL ENGINEERING, June 1921

Place, C. W. Power Production and Use	437
Plumley, Stuart. Oxy-acetylene welding and cutting blowpipes (D)	209
POLAKOV, W. N.1 Making Work Fascinating	
	1045
Poliakoff, R. Art of milling (D)	598
	1309
Pope, Joseph. Heat balance in steam power plants (D)	531
Porting oil engines	649
Post, Augustus. Commercial operation of airplanes (D)	764
Powell, E.B. Requirements in the Design of Steam Power Stations	
fcr Hydraulic Relay	1163
Power, production and use	437
	1163
Power stations, Location of in the Middle West	437
Pratt, F. C. ² Professional Engineering Education for the Industries	
Presidential Address, 1921	467
Process charts	1029
PROCHAZKA, HENRY C., obituary	1310
Pumping engine performance	809
Pumps, dry-vacuum, capacity tests of	91
QUAYLE, L. A. The Vertical Triple-Expansion Pumping Engine 809,	849
Ramsey, Webster K. A Discussion of Draft-Tube Designs 1219.	1941
Redfield, Snowdon B. Capacity Tests of Dry-Vacuum Pumps by the	
Low-Pressure Nozzle.	91
Regainer, hydraucone	255
	1163
Report of visiting Engineers to England and France	15
	1273
Council	453
	1269
	1259
	1261
	1259
Reynolds, Herbert B. Report Upon Efficiency Tests of a 30,000-kw	
Steam Turbine	113
Reynolds, I. H. Pumping engine performance (D)	843
	1068
	1105
Richards, Charles Russ. Interpretation of boiler-water analysis (D)	253
RICKETTS, Edwin B. Boiler and furnace economy (D)	896
	1072
RILEY, R. SANFORD. Boiler and furnace economy (D)	
	910
Boiler-plant efficiency (D)	910 874
Boiler-plant efficiency (D) Boiler tests with pulverized coal (D)	
Boiler-plant efficiency (D). Boiler tests with pulverized coal (D). Close-up of Stoker Combustion*	874

See MECHANICAL ENGINEERING, November 192
 See MECHANICAL ENGINEERING, January 1922
 See MECHANICAL ENGINEERING, February 1922

Ring, Joseph J. Hydraucone regainer (D)	312
RIPLEY, CHARLES. Necessity for improvement in present-day locomotives	414
ROACH, JOSEPH H., obituary	1310
Robb, Aubrey G., obituary	1311
ROELKER, HUGO BERNARD, obituary	1311
Rogers, J. Frank. Fuel saving in gas producer plants (D)	938
Rubenkoenig, H. Design of large locomotives (D)	371
RUNKEL, W. H. Stresses in flat cylinder heads (D)	644
Rushton, Kenneth, obituary	1312
St. Louis pumping engine performance	843
SACKETT, R. L. Outline of Education and Training in the Industries	
SANDERS, WALTER C. Avoidable Waste in Car Operation - The Con-	
tainer Car 1013,	1027
SAYRE, WILLIAM H., obituary	1312
Schaller, Alvin. Pumping engine performance (D)	849
Scheffler, Fred'k., A. Boiler tests with pulverized coal (D)	58
Schnuck, Edward F., obituary	1312
Scott, James B. Heat Balance in steam power plants (D)	531
Seelye, Elwyn E. Stresses in flat cylinder heads (D)	647
Segur, A. B. Process charts (D)	1045
Shaw, J. C. Compound combustion engine (D)	722
Shepard, George R. Hydraucone regainer (D)	287
Smith, George J., obituary	1313
SMITH, H. C. ² What the National Metal Trades Association is Doing and	
Intends to do in Industrial Education	
Smith, J. A. ³ Salvaging Industrial Wastes	
SMITH, JOHN SMART, obituary	1313
Smoot, C. H. Boiler-plant efficiency (D)	874
SNEDDON, JAMES PRENTICE, obituary	1314
SNYDER, H. W. The Necessity for Improvement in the Design and	
Operation of Present-Day Locomotives	393
Society Affairs	3
Annual Meeting, December 1921	8
Boiler code, public hearing on air tanks and pressure vessels	4
Biography of Edwin S. Carman	1
Necrology	1279
Presidential Address	467
Program of Annual Meeting	11
Program of Spring Meeting	5
Report of Council	453
Report of visiting engineers to England and France	15
Spring Meeting, Chicago, Ill., 1921	3
Sorge, Adolph, Jr., obituary	1315
Sperry, Elmer A. Avoidable waste in locomotive design (D)	1000
Compounding the Combustion Engine	677
1 See MECHANICAL ENGINEERING February 1999	

See Mechanical Engineering, February 1922
 See Mechanical Engineering, August 1921
 See Mechanical Engineering, December 1921

INDEX	1333

Spitzglass, J. M. Boiler-plant efficiency (D)	875
Stafford, Benjamin E. D., obituary	1315
Stedman, Harold W., obituary	1316
STEINMETZ, JOSEPH A. Commercial operation of airplanes (D)	763
STEVENS, JOHN A. Boiler and furnace efficiency (D)	910
Boiler tests with oil fuel (D)	807
Heat balance in steam power plants (D)	516
Power in the Middle West (D).	449
Stokers, with mid-west coals	69
chain-grate, ash-pit losses from	19
mechanical, limitations of	63
Stuebing, Albert F. Advantages of Large Freight Locomotives, Parti-	00
cularly the 2-10-2 Type	325
Summerhayes, H. R. Heat balance in steam power plants (D)	529
Surge-chamber, application of law of kinematic similitude to	1177
Suverkrop, Edward A., obituary	1316
Sweeney, Matthew Mark, obituary	1317
Symonds, George Parker, obituary	1317
Symons, W. E. Design of large locomotives (D)	383
SYMONS, W. E. Design of large locomotives (D)	999
Taggart, James M. Heat balance in steam power plants (D)	532
,	943
Taussig, J. H. Fuel saving in gas producers (D)	
Taylor, H. Birchard. Hydraucone regainer (D)	290
Tenney, Edward H. Limitations of Mechanical Stokers Utilizing Mid-	00
West Coals	63
Tests of boiler with pulverized coal	45
Textile plant, waste in	1089
Textiles, economy in drying	1083
THOMAS, ARTHUR W. 1 Research in Leather Manufacture	001
TOLTZ, MAX. Design of large locomotives (D)	391
TRUMP, C. C. Boiler tests with pulverized coal (D)	69
Compound combustion engine (D)	718
Design of large locomotives (D)	370
Boiler and furnace economy (D)	898
TRUMP, E. N. Boiler tests with pulverized coal (D)	61
Fuel saving in gas producers (D)	943
Tube, draft, design of	1219
	1245
Turbine, ejector	1201
hydraulie	1113
	1201
steam, report of test	113
UEHLING, F. F. Boiler and furnace efficiency (D)	904
VAN DERVOORT, WILLIAM H., obituary	1317
Warran B. F. Barran and until and une (D)	440
Walker, P. F. Power production and use (D)	446
¹ See Mechanical Engineering, February 1922	

Wallace, J. H.1 Paper and By-Products from Southern Pine Refuse	
WALLACE, L. W. Graphical methods (D)	89
WARDEN, G. L. Boiler and furnace economy (D)	910
WARDENBURG, F. A.2 Elimination of Waste in Industry Through Research	
WARNER, E. P. Commercial operation of airplanes (D)	761
WARNOCK, HARRY R., obituary	1318
Waste, in gas producers	919
in locomotives	951
in locomotive design	987
prevention in industry	1097
textile plants	1089
Water, boiler, interpretation of analysis of	241
Webber, Samuel Storrow, obituary	1318
Welding, oxy-acetylene	141
WHITE, W. M. Hydraucone Regainer, Its Development and Application in	
Hydro-electric Plants	255
WIEDMANN, R. J., obituary	1319
WILLIAMS, Gardner S. Hydraucone regainer	314
WILSON, JOHN E. Capacity and Efficiency Limitations of Stokers Using	
Mid-West Coals	69
Wire cable, elastic properties of	767
Wohlenberg, W. J. Compound combustion engine (D)	719
Wood, A. J. Avoidable waste in locomotive and car operation (D)	984
WOODWARD, W. E. Necessity for improvement in present-day locomotives	413
Yates, Preston King, obituary	1319

See Mechanical Engineering, March 1922
 See Mechanical Engineering, February 1922

